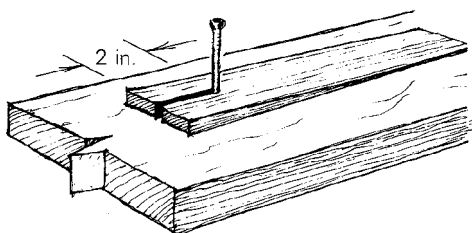


Tips and Techniques is a forum for readers to exchange the methods, tools and jigs they've devised. We'll pay for any we publish. Send details and sketches to Tips, Fine Homebuilding, Box 355, Newtown, Conn. 06470.

Shingle cheater

Here's a trick an old carpenter showed me after watching me drive 16d galvanized casing nails, overhead, into 2x6 vertical-grain fir. I had just missed the nailhead, producing a deep hammer track in the board, and I was about to turn the air blue with a few choice phrases when he showed me how to make a cheater. He took a shim shingle and cut a lengthwise slot into the middle of the butt end. Once he had started the nail, he slipped



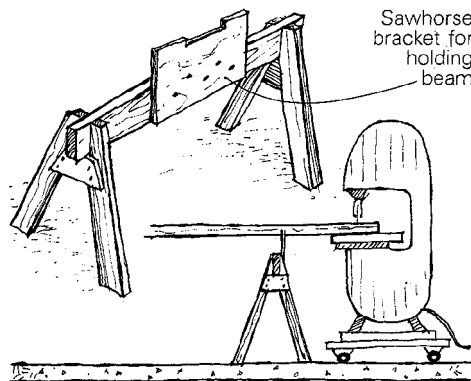
the kerfed shingle around the shank of the nail, as shown, and invited me to hammer away. After that, when I missed the nail, the shingle took the hit, not the trim.

—Jeff Head, Port Angeles, Wash.

Rolling bandsaw

In response to Eric Rekdahl's method for cutting curves in thick timber with a Sawzall (see *FHB* #14, p. 14), I have an alternate method to suggest. It was devised after rejecting several other approaches, including the portable bandsaw, which had insufficient throat for the cuts we wanted to make.

Like Rekdahl, I also had to make decorative curved cuts in large beams. I trucked the beams to my shop and set up my bandsaw on a dolly mounted on casters. Then I cut a pair



of plywood supports with shallow notches the width of the beams, and spiked them to the 2x6 crossbars on a pair of sturdy sawhorses as shown above. The bottoms of the notches were placed at the height of the saw table, and the horses were spread apart to support the beams securely.

After marking, the beam was placed on the horses, and the bandsaw was rolled up to the beam to make the cut. Since the dolly could

readily be moved in any direction, I found that I could direct the blade accurately through the wood, albeit using a spread-legged stance and bear-hugging the saw.

The first wheels that I used were the ball-bearing type that are set in their own chase. But these tended to collect sawdust, causing the balls to stop rolling. I ended up using offset rubber wheels, which worked much better.

With a $\frac{3}{8}$ -in. blade, it was easy to cut the $5\frac{1}{2}$ -in. diameter semicircle I had drawn on the beam. I had an assistant along that morning, but the setup was so stable that he had little to do beyond catching the cut pieces as I rolled the bandsaw around the beam.

—Robert Gay, Seattle, Wash.

Concrete calculations

Figuring out a load of concrete for foundations, walls or slabs can seem like an endless math assignment. The following formulas are shortcuts to the conversions from square inches to cubic yards. For footings, multiply the cross section in square inches by .000257 to get the cubic yards in one lineal foot. Multiply that result by the length of the footing for your total. For example: Find the number of cubic yards of concrete in a footing 14 in. wide, 17 in. deep and 43 ft. long.

$$14 \times 17 \times .000257 \times 43 = 2.63 \text{ cu. yd.}$$

This formula also works for columns. Just think of them as vertical footings.

For walls and slabs, it's a little different. Multiply the slab or wall area in square feet times the thickness in inches times .0031. For example: How many cubic yards of concrete are there in a wall 4 ft. high, 82 ft. long and 9 in. thick?

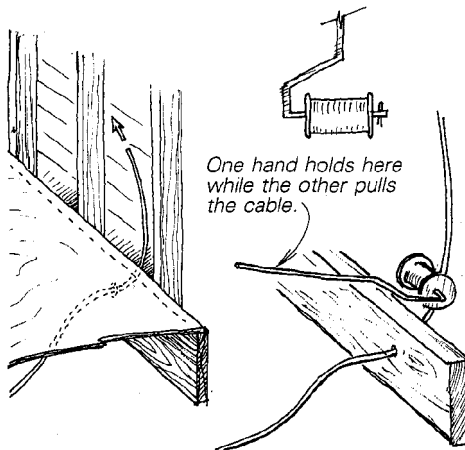
$$4 \text{ ft.} \times 82 \text{ ft.} \times 9 \text{ in.} \times .0031 = 9.15 \text{ cu. yd.}$$

—Charles Fockaert, Eureka, Calif.

Cable pulley

While rewiring my house, I was confronted several times with having to thread the cable behind finished walls and under subfloors. Difficulty arose when the cable had to be drawn through holes that were perpendicular to the only direction I could pull the cable.

To keep the cable from binding against the edges of the hole, I fabricated the contraption shown below. It's a 16-in. piece of $\frac{3}{8}$ -in. steel rod. At one end is a plastic spool that once held monofilament fishing line. A cotter pin holds the spool in place. Used as a pulley, the



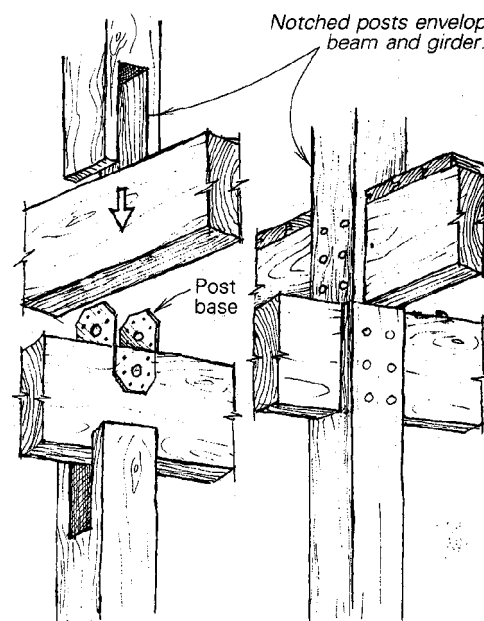
spool makes it easy to pull cable through a hole that's at right angles to the direction of pull.

—Malcolm McKeag, W. Kingston, R.I.

Nested post-to-beam joint

The wind can blow up to 100 miles an hour where we live on the Oregon coast, so it's mighty important for a roof to be tied firmly to its foundation. To hold ours down, I needed a tension tie between a post, a girder, a beam and another post upstairs. There are lots of steel brackets that can make these connections, but I don't like looking at them. So I devised the joint shown below.

First I nailed a Simpson (1450 Doolittle Dr., San Leandro, Calif. 94577) B6 post base to the



top of my girder, and then I lowered it into a notch in a post sized 2 in. wider than the girder. The upper flanges of the post base tie the beam to the girder, and I notched the upstairs post to slip over the beam. This conceals the hardware and gives the appearance of a continuous post with beams passing through it. I used hardwood pegs to tie the beam and girder to the posts.

—Tom Bender, Nehalem, Ore.

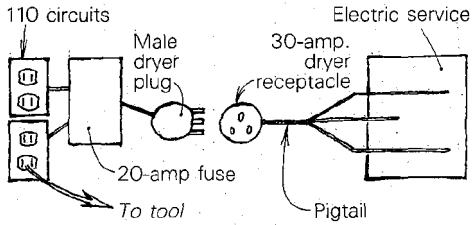
Renovation metalwork

People who do renovation work or build rustic new houses are often in the market for black hardware—hinges, latches or just ordinary nuts, washers and bolts. But the right sizes may not be available in black, and when they are, they're more expensive than their silvery counterparts. I permanently blacken my hardware with gun blueing. The package directions are easy to follow, and the finish doesn't chip off. Two suppliers are: Birchwood Casey, Eden Prairie, Minn. 55344; and Metal Blueing Products Inc., New Rochelle, N.Y. 10801.

—Gerald R. Jacob, Kaysville, Utah

Increasing the power supply

Antiquated wiring can be a real frustration during a remodeling job—under a load, compressors and table saws are always blowing fuses. When this happens, I do one of two



Plug-in adapter

Wired-in adapter

things. If the house has an electric clothes-dryer, I plug an adapter I made up into the dryer's 30-amp circuit. The adapter is fused for 20 amps, and it gives us two separate 110-volt circuits.

If there isn't a dryer, I go to the electric service and tie a pigtail to one of the fused circuits. Our pigtail has a female dryer receptacle on its end that allows us to plug our adapter into it, as shown above. If you don't know your way around a fuse box, have the electrician on your job hook up the pigtail to the electrical service for you. Either way, it's a lot easier than running back and forth between your work and the service panel to change fuses or throw breakers for the course of a job. —Angelo Margolis, Sebastopol, Calif.

Folding workbench

When I left my amateur standing for an apprenticeship in carpentry, I also left my overbuilt workbench in the basement. One evening, when I was glancing over plans for site-built roof trusses, I realized that the same principles could be used to design a solid, easy-to-carry bench. Glued-on gussets are the secret. They reinforce a lightweight frame where it's needed most—at the joints. For my bench's frame I used 1x4 clear pine. At first I had my doubts about the strength of 3/4-in. stock, but I'm glad now that I didn't use 2x4s.

I started by cutting four 29-in. legs, knowing that I'd probably shorten them. Then I cut

four 13-in. rails, as shown in the drawing below. This gives a finished width of 20 in. for the end frames: This might seem too narrow, but the bench is very stable in use. The top rails join flush to the top of the legs, and the bottom rails are 6 in. above floor level. This allows plenty of length for trimming the bench to the correct height.

I fastened the end frames together temporarily with corrugated fasteners, coated the gussets with glue and stapled them across the joints. Staples are fine for this; the strength comes from the glue.

I made the mid-frame 5 ft. long, but if I had to do it over I'd up it to 5 1/2 ft. The bench would be a little harder to maneuver through tight places, but the extra stability would be worth it. The mid-frame stiles are 16 in., to match the dimension between the rails of the end frames. To resist racking, I added a 1x2 brace at each corner of the mid-frame.

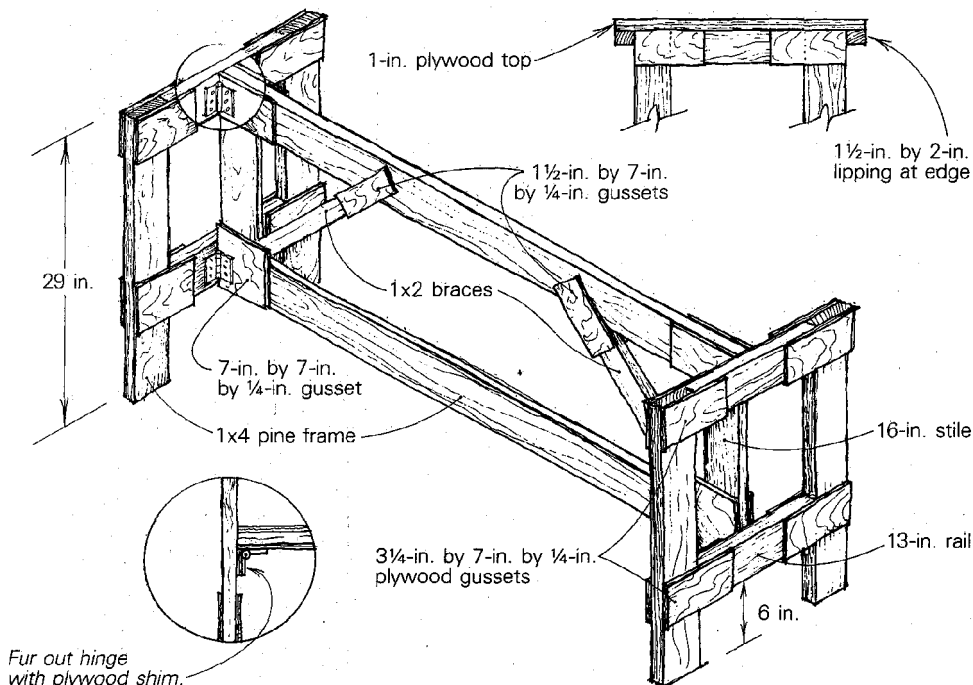
To join the three frames, I used pairs of old 2 1/4-in., tight-pin butt hinges—a pair at each end—so that the whole thing folds flat for transport or storage. The hinge leaves on the end frames need to be furred out with plywood the same thickness as the gusset.

My bench top is made from a 4x8 sheet of 1/2-in. CDX plywood, cut in half lengthwise and laminated together with yellow glue. I glued the two crowned sides together to ensure that the finished piece stays flat.

Once the top was dry, I glued 1 1/2-in. by 2-in. lipping on each long edge. This strengthens the plywood, holds the top in place and provides a handy purchase for clamps. Register blocks at the end of the top keep it centered on the base.

I've finally gotten its height to the right point for me—I'm 5 ft. 10 in. tall, and the bench is now 27 1/2 in. I can plane comfortably on it, get a knee up to crosscut and still avoid the backache of working on low horses.

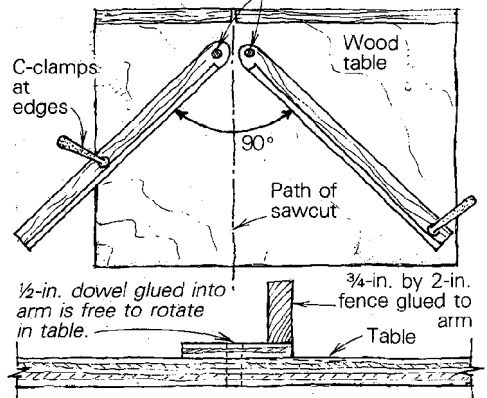
—T. D. Culver, Cleveland Heights, Ohio



Miter jigs

I cut miters on my radial-arm saw with the jigs shown in the drawing. In the plan view, the path of the sawblade should bisect the miter fences—a 45° cut on both sides. But as long as you are cutting stock of the same width using both fences for each joint, and the fences are exactly 90° apart, the miter will fit perfectly

Miter jigs pivot on dowels.



even if the saw is slightly off. To make sure of the angle, I hold my framing square between the two arms when I clamp them down.

The arms can be plywood or clear stock—just something that will remain true. I screwed and glued 3/4-in. by 2-in. fences to the arms after I made sure that the saw motor would clear them. The pivots are short sections of 1/2-in. dowels, glued into the arms.

—James Baldwin, Chester, N. J.

Applying liquid preservatives

Many builders treat exterior millwork with liquid preservatives (usually penta or chromated copper arsenate) to protect the wood against fungal decay. Unfortunately, chemicals that kill fungi can also be deadly to humans, animals and plants. Spraying is a hazard because of drifting mist, and dip-treating in vats is practical only for small pieces or commercial operations. Brushes or rollers can't hold much of these thin, volatile liquids, so more preservative dribbles down our sleeves than onto the woodwork. The challenge, then, is to treat the wood without spilling any on our skin, clothing or the surrounding area.

To apply liquid preservatives, I use a plastic squeeze bottle that in a previous life contained liquid dish soap. I squeeze the empty bottle to expel air, dip the tip into a can of preservative, and release my grip so the bottle sucks in the liquid. With the bottle about half full in one hand, I feed a brush (or roller) in my other hand. I squeeze preservative directly onto the bristles to keep them wet while I move the brush along the wood. If liquid starts to trickle, I stop the flow, catch the drips with the brush, and work the excess into the surrounding wood. This way I can even control the flow of preservative while treating corners, edges and vertical surfaces. Of course, I still wear rubber gloves and goggles, but with this method more preservative ends up on the wood and less on me and other living things.

—J. Azevedo, Corvallis, Ore.